UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER
PURSUANT TO RULE 13a-16 OR 15d-16 OF
THE SECURITIES EXCHANGE ACT OF 1934

For the month of April 2011

Commission File Number: 001-34949

Tekmira Pharmaceuticals Corporation

(Translation of Registrant's Name Into English)

100-8900 Glenlyon Parkway
Burnaby, British Columbia
Canada, V5J 5J8
(Address of Principal Executive Offices)

(Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.)

Form 20-F ☒ Form 40-F ☐

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): ☐

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7): ☐

Indicate by check mark whether the registrant by furnishing the information contained in this form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934.

Yes ☐ No ☒

If "Yes" is marked, indicate below the file number assigned to the registrant in connection with Rule 12g3-2(b): _____

EXHIBITS

The following exhibit is a press release issued by Tekmira Pharmaceuticals Corporation:

Exhibit Number	Description
99.1	Press release dated April 4, 2011

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

TEKMIRA PHARMACEUTICALS CORPORATION
(Registrant)

Date: April 4, 2011

By: /s/ Ian C. Mortimer
Name: Ian C. Mortimer
Title: Executive Vice President, Finance and Chief Financial Officer

Exhibit 99.1

Tekmira and Collaborators Present Data at the American Association for Cancer Research (AACR) Meeting on Tekmira's Lead Oncology Product, TKM-PLK1, and an Oncology Product Candidate Targeting Kinase WEE1

FOR IMMEDIATE RELEASE: **April 4, 2011**

Vancouver, BC — Tekmira Pharmaceuticals Corporation (Nasdaq: TKMR, TSX: TKM), a leading developer of RNA interference (RNAi) therapeutics, announced today that it will present additional data on its lead oncology product candidate, TKM-PLK1, at the AACR Annual Meeting 2011 taking place April 2-6, 2011 in Orlando, Florida. In addition, Tekmira's collaboration partner, the National Cancer Institute (NCI), will present a poster that includes anti-tumor activity data from silencing a promising cell cycle kinase target enabled by Tekmira's lipid nanoparticle (LNP) delivery technology.

"The presentations at AACR offer additional evidence of TKM-PLK1's potential to treat a variety of solid tumor cancers as well as the ongoing scientific advancements in developing novel oncology products against other tumor targets enabled by Tekmira's LNP platform," said Dr. Mark J. Murray, Tekmira's President and CEO.

In a presentation entitled, "Preclinical Characterization of TKM-080301, a Lipid Nanoparticle Formulation of Small Interfering RNA Directed Against Polo-like Kinase 1," Tekmira will present data supporting the development of TKM-PLK1 as a treatment for cancer. The presentation outlines the rational design of siRNA against polo-like kinase 1 (PLK1), a protein involved in tumor cell proliferation and an important oncology target. Inhibition of PLK1 prevents the tumor cell from completing cell division, resulting in cancer cell death. Highlights of the presentation include:

- TKM-PLK1 is highly active in multiple human cancer cell lines representing different tumor types, including colon, breast, lung and ovarian cancers
- Pharmacodynamic effects and RNAi mechanism of action are confirmed *in vitro* and *in vivo*
- TKM-PLK1 administration results in tumor growth inhibition and increased survival benefit of treated animals in preclinical models of human liver cancer and solid tumors outside the liver
- Results from toxicology studies demonstrate limited distribution of TKM-PLK1 to bone marrow and lack of bone marrow toxicity – an important finding for the potential to combine TKM-PLK1 with other oncology drugs

Also at AACR, Tekmira's collaborative partner, the National Cancer Institute, will present a poster entitled, "siRNA Targeting of Cell Cycle Kinase WEE1 Inhibits Hepatocellular Carcinoma Growth *In vitro* and *In vivo*." The results indicate that LNP delivery of siRNA targeting the cell cycle kinase WEE1 effectively suppresses tumor growth and increases survival of treated animals in preclinical models of human hepatocellular carcinoma (HCC or liver cancer) in a dose-dependent manner.

"Our partnership with the National Cancer Institute is built upon NCI's strengths in identifying novel cancer targets and Tekmira's leadership in siRNA molecule design and delivery, and we are pleased to see further results from this collaboration. Our preclinical pipeline of novel oncology products continues to evolve and we are pursuing the benefits of combining siRNA against multiple oncology targets," added Dr. Murray.

About TKM-PLK1

TKM-PLK1 consists of a Tekmira proprietary lipid nanoparticle (LNP) formulation that encapsulates small interfering RNA (siRNA) designed to silence PLK1. TKM-PLK1 has been shown in preclinical

animal studies to selectively kill cancer cells, while sparing normal cells in healthy tissue. PLK1 plays a key role in a number of significant cancer indications including colorectal, breast, non-small cell lung, and ovarian cancers. These diseases collectively affect more than 500,000 new patients each year in the United States.

In December 2010, Tekmira initiated a TKM-PLK1 Phase 1 clinical trial, conducted at three medical centers in the United States. The trial is an open label, multi-dose, multi-cycle, dose-escalation study designed to evaluate the safety, tolerability and pharmacokinetics of TKM-PLK1 as well as the determination of the maximum tolerated dose in patients with advanced solid tumors.

About RNAi and Tekmira's LNP Technology

RNAi therapeutics have the potential to treat a broad number of human diseases by "silencing" disease causing genes. The discoverers of RNAi, a gene silencing mechanism used by all cells, were awarded the 2006 Nobel Prize for Physiology or Medicine. RNAi therapeutics, such as "siRNAs," require delivery technology to be effective systemically. LNP technology is the most widely used siRNA delivery approach for systemic administration. Tekmira's LNP technology (formerly referred to as stable nucleic acid-lipid particles or SNALP) encapsulates siRNAs with high efficiency in uniform lipid nanoparticles that are effective in delivering RNAi therapeutics to disease sites in numerous preclinical models. Tekmira's LNP formulations are manufactured by a proprietary method which is robust, scalable and highly reproducible and LNP-based products have been reviewed by multiple FDA divisions for use in clinical trials. LNP formulations comprise several lipid components that can be adjusted to suit the specific application.

About Tekmira

Tekmira Pharmaceuticals Corporation is a biopharmaceutical company focused on advancing novel RNAi therapeutics and providing its leading lipid nanoparticle delivery technology to pharmaceutical partners. Tekmira has been working in the field of nucleic acid delivery for over a decade and has broad intellectual property covering LNPs. Further information about Tekmira can be found at www.tekmirapharm.com. Tekmira is based in Vancouver, B.C.

Forward-Looking Statements and Information

This press release contains "forward-looking statements" or "forward-looking information" within the meaning of applicable securities laws (collectively, "forward-looking statements"). Forward-looking statements are generally identifiable by use of the words "believes," "may," "plans," "will," "anticipates," "intends," "budgets," "could," "estimates," "expects," "forecasts," "projects" and similar expressions, and the negative of such expressions. Forward-looking statements in this news release include statements about the timing and substance of Tekmira and NCI's presentation of data at the AACR Annual Meeting 2011; Tekmira's strategy, future operations, clinical trials, prospects and plans of management; Tekmira's RNAi product development programs; the effects of TKM-PLK1 as a treatment of cancer; the results of LNP delivery of siRNA targeting the cell cycle kinase WEE1; and any future results from Tekmira's collaboration with United States National Cancer Institute.

With respect to the forward-looking statements contained in this news release, Tekmira has made numerous assumptions regarding, among other things: LNP's status as a leading RNAi delivery technology; the effectiveness of Tekmira's TKM-PLK1 product candidate as a treatment for cancer and the effectiveness of Tekmira's LNP delivery technology. While Tekmira considers these assumptions to be reasonable, these assumptions are inherently subject to significant business, economic, competitive, market and social uncertainties and contingencies.

Additionally, there are known and unknown risk factors which could cause Tekmira's actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements contained herein. Known risk factors include, among others: the possibility that other organizations have made advancements in RNAi delivery technology that Tekmira is not aware of; Tekmira's development programs, including TKM-PLK1, LNP delivery technology and its collaboration with United States National Cancer Institute, will not result in expected results on a timely basis, or at all.

A more complete discussion of the risks and uncertainties facing Tekmira appears in Tekmira's Annual Information Form dated March 30, 2011 and available at www.sedar.com. All forward-looking statements herein are qualified in their entirety by this cautionary statement, and Tekmira disclaims any obligation to revise or update any such forward-looking statements or to publicly announce the result of any revisions to any of the forward-looking statements contained herein to reflect future results, events or developments, except as required by law.

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